# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO. B-4299 TCP-1

# PLAN FOR PROPOSED TRAFFIC CONTROL, MARKING & DELINEATION

# WAKE COUNTY

1205.01

## ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH - N. C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N. C., DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD.NO.

DIVISION 11 - WORK ZONE TRAFFIC CONTROL

1101.02 TEMPORARY LANE CLOSURES TEMPORARY ROAD CLOSURES 1101.03 WORK ZONE VEHICLE ACCESSES 1101.05 TRAFFIC CONTROL DESIGN TABLES 1101.11 STATIONARY WORK ZONE SIGNS 1110.01 PORTABLE WORK ZONE SIGNS 1115.01 FLASHING ARROW PANELS 1130.01 DRUMS 1135.01

BREAKDOWN INCLUDES TWO APPLICATIONS.

1145.01

BARRICADES - TYPE I, II, III AND PERMANENT **FLAGGERS** 1150.01 1180.01 SKINNY-DRUM

DIVISION 12 - PAVEMENT MARKINGS, MARKERS AND DELINEATION

PAVEMENT MARKINGS - LINE TYPES AND OFFSETS

PAVEMENT MARKINGS - DIVIDED AND UNDIVIDED ROADWAYS 1205.02 1205.04 PAVEMENT MARKINGS - INTERSECTIONS 1205.05 PAVEMENT MARKINGS - TURN LANES 1205.08 PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES 1205.09 PAVEMENT MARKINGS - PAINTED ISLANDS 1205.12 PAVEMENT MARKINGS - BRIDGES PAVEMENT MARKER SPACING 1250.01 RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY 1251.01 1261.01 GUARDRAIL AND BARRIER DELINEATOR SPACING 1261.02 GUARDRAIL AND BARRIER DELINEATOR TYPES 1262.01 GUARDRAIL END DELINEATION

## INDEX OF SHEETS

SHEET NO.	TITLE
TCP - 1	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, INDEX OF SHEETS, AND LEGEND
TCP - 2	PROJECT NOTES
TCP - 3	PHASE I
TCP - 4-5	PHASE II
TCP - 6	SPECIAL SIGN DESIGN
PM - 1	PAVEMENT MARKING SCHEDULE
PM - 2-3	PAVEMENT MARKING DETAIL

		PAVEMENT MARKING SCHEDULE	PAY ITEM Q	JANTITY	TOTAL QUANTITY		
SYMBOL	DESCRIPTION		BREAKD				
		TEMPORARY PAVEMENT MARKINGS					
		PAINT(24")					
P4	WHITE STOPBAR (1X)		108	LF			
				TOTAL	108	LF	
		PAINT(4")					
PA	WHITE EDGELINE (1X)		1014	LF			
PD	2 FT. WHITE MINISKIP (1X)		31	LF · -			
PI	YELLOW DOUBLE CENTER (1X)		800	LF TOTAL	1015	1 5	
				TOTAL	1845	LF	
		PAINT(8")					
PR	WHITE GORELINE (1X)		264	LF			
PS	WHITE DIAGONAL (1X)		130	LF	20.4	. –	
				TOTAL	394	LF	
		PAINTMARKING SYMBOLS					
QB	RIGHT TURN ARROW (1X)		2	EA			
QD	COMBO.STRAIGHT/LEFT (1X)		2	EA			
				TOTAL	4	EA	
		MARKERS					
		TEMPORARY RAISED PAVEMENT MARKERS					
мн	YELLOW & YELLOW		3	EA			
MI	CRYSTAL & RED		9	EA			
				TOTAL	12	EA	

APPLY ONE APPLICATION OF PAINT AT 15 MILS WET. IF THE TEMPORARY TRAFFIC PATTERN WILL LAST LONGER THAN SIX

MONTHS, APPLY A SECOND APPLICATION OF PAINT SIX MONTHS AFTER THE INITIAL APPLICATION. PAY ITEM QUANTITY

# **LEGEND**

#### **GENERAL**

DIRECTION OF TRAFFIC FLOW

NORTH ARROW

— PROPOSED PVMT. ----- EXIST. PVMT.

**WORK AREA** 

REMOVAL OF EXISTING PAVEMENT

### TRAFFIC CONTROL DEVICES

T TYPE I BARRICADE

TYPE III BARRICADE

CONE

SKINNY DRUM

FLASHING ARROW PANEL (TYPE C)

STATIONARY SIGN

□ PORTABLE SIGN

STATIONARY OR PORTABLE SIGN

WARNING FLAGS

-√ CRASH CUSHION

CHANGEABLE MESSAGE SIGN

TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)

POLICE

**FLAGGER** 

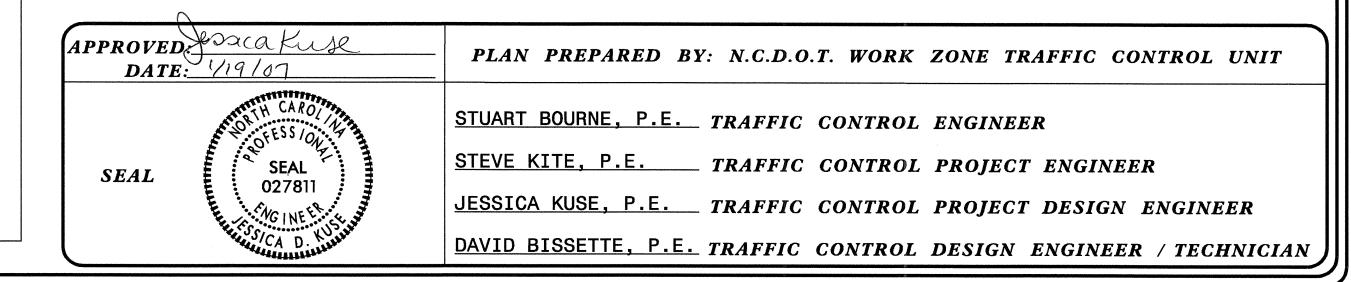
#### PAVEMENT MARKINGS

CRYSTAL/CRYSTAL PAVEMENT MARKER

YELLOW/YELLOW PAVEMENT MARKER

CRYSTAL/RED PAVEMENT MARKER

PAVEMENT MARKING SYMBOLS



# GENERAL NOTES

ADAPT THE TRAFFIC CONTROL PLANS, WHEN DIRECTED BY THE ENGINEER, TO MEET FIELD CONDITIONS AND TO PROVIDE SAFE AND EFFICIENT TRAFFIC MOVEMENT. CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE, OR RESULT IN DUPLICATE, OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

#### TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME

DAY AND TIME RESTRICTIONS

SR 1006 & SR 2782

6:00 A.M. TO 9:00 A.M.

AND

3:00 P.M. TO 7:00 P.M. MONDAY THRU FRIDAY

US 401

6:00 A.M. TO 10:00 P.M. MONDAY THRU SUNDAY

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

#### ROAD NAME

- 1. US 401
- 2. SR 2782 (LEGEND ROAD)
- 3. SR 1006 (OLD STAGE ROAD)

#### HOLIDAY

- 1. FOR ANY EVENT THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- 2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 10:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A SATURDAY OR A SUNDAY, THEN UNTIL 10:00 P.M. THE FOLLOWING TUESDAY.
- 3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 10:00 P.M. MONDAY.
- 4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 10:00 P.M. TUESDAY.
- 5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 10:00 P.M. THE DAY AFTER INDEPENDENCE DAY.
  - IF INDEPENDENCE DAY IS ON A SATURDAY OR SUNDAY, THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 10:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
- 6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 10:00 P.M. TUESDAY.
- 7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 10:00 P.M. MONDAY.
- 8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 10:00 P.M. THE FOLLOWING MONDAY AFTER THE WEEK OF CHRISTMAS.

#### LANE AND SHOULDER CLOSURE REQUIREMENTS

- C) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.
- D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

- E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- F) DO NOT WORK SIMULTANEOUSLY, ON BOTH SIDES OF AN OPEN TRAVELWAY, WITHIN THE SAME LOCATION, ON A TWO-LANE, TWO-WAY ROAD.
- G) DO NOT PERFORM WORK INVOLVING HEAVY EQUIPMENT WITHIN 15 FT OF THE EDGE OF TRAVELWAY WHEN WORK IS BEING PERFORMED BEHIND A LANE CLOSURE ON THE OPPOSITE SIDE OF THE TRAVELWAY.

#### PAVEMENT EDGE DROP OFF REQUIREMENTS

H) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS A DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

I) DO NOT EXCEED A DIFFERENCE OF 2.0 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC. INSTALL ADVANCE WARNING \*UNEVEN LANES\* SIGNS (W8-11) 500 FT IN ADVANCE AND A MINIMUM OF ONCE EVERY MILE THROUGHOUT THE UNEVEN AREA.

#### TRAFFIC PATTERN ALTERATIONS

J) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

#### SIGNING

- K) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 100 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- L) PROVIDE FOR PERMANENT SIGNING.
- M) PROVIDE FOR DETOUR SIGNING WITHIN AND OFF THE PROJECT LIMITS.
- N) COVER OR REMOVE ALL DETOUR SIGNS WITHIN AND OFF THE PROJECT LIMITS WHEN A DETOUR IS NOT IN OPERATION.
- O) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

#### TRAFFIC CONTROL DEVICES

P) SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH), EXCEPT 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY, WHEN LANE CLOSURES ARE NOT IN EFFECT.

#### PAVEMENT MARKINGS AND MARKERS

Q) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME

MARKING

MARKER

ALL ROADS

THERMO

PERMANENT RAISED

R) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME

ALL ROADS

\_\_\_\_\_

MARKING

MARKER

PAINT

TEMPORARY RAISED

- S) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- T) REPLACE ANY PAVEMENT MARKINGS THAT HAVE BEEN DAMAGED BY THE END OF EACH DAY'S OPERATION.

#### TEMPORARY / FINAL SIGNALS

U) SHIFT AND REVISE ALL SIGNAL HEADS AS SHOWN ON THE SIGNAL PLANS.

#### MISCELLANEOUS

V) POLICE MAY BE USED TO MAINTAIN TRAFFIC THROUGH INTERSECTIONS.

# LOCAL NOTES

- 1. MAINTAIN DRIVEWAY ACCESS WITHIN PROJECT LIMITS USING INCIDENTAL STONE.
- 2. MAINTAIN TRAFFIC WITH POLICE ON US 401 DURING SIGNAL TIMING AND /OR GRID CHANGES AT THE DIRECTION OF THE ENGINEER.
- 3. INSTALL SIGNS BEFORE THE BARRICADES WHEN CLOSING THE ROADWAY TO TRAFFIC. REMOVE BARRICADES BEFORE THE SIGNS WHEN OPENING THE ROADWAY TO TRAFFIC. INSTALL/REMOVE SIGNS AND BARRICADES WITHIN THE SAME CALENDAR DAY.

SEAL SEAL O27811

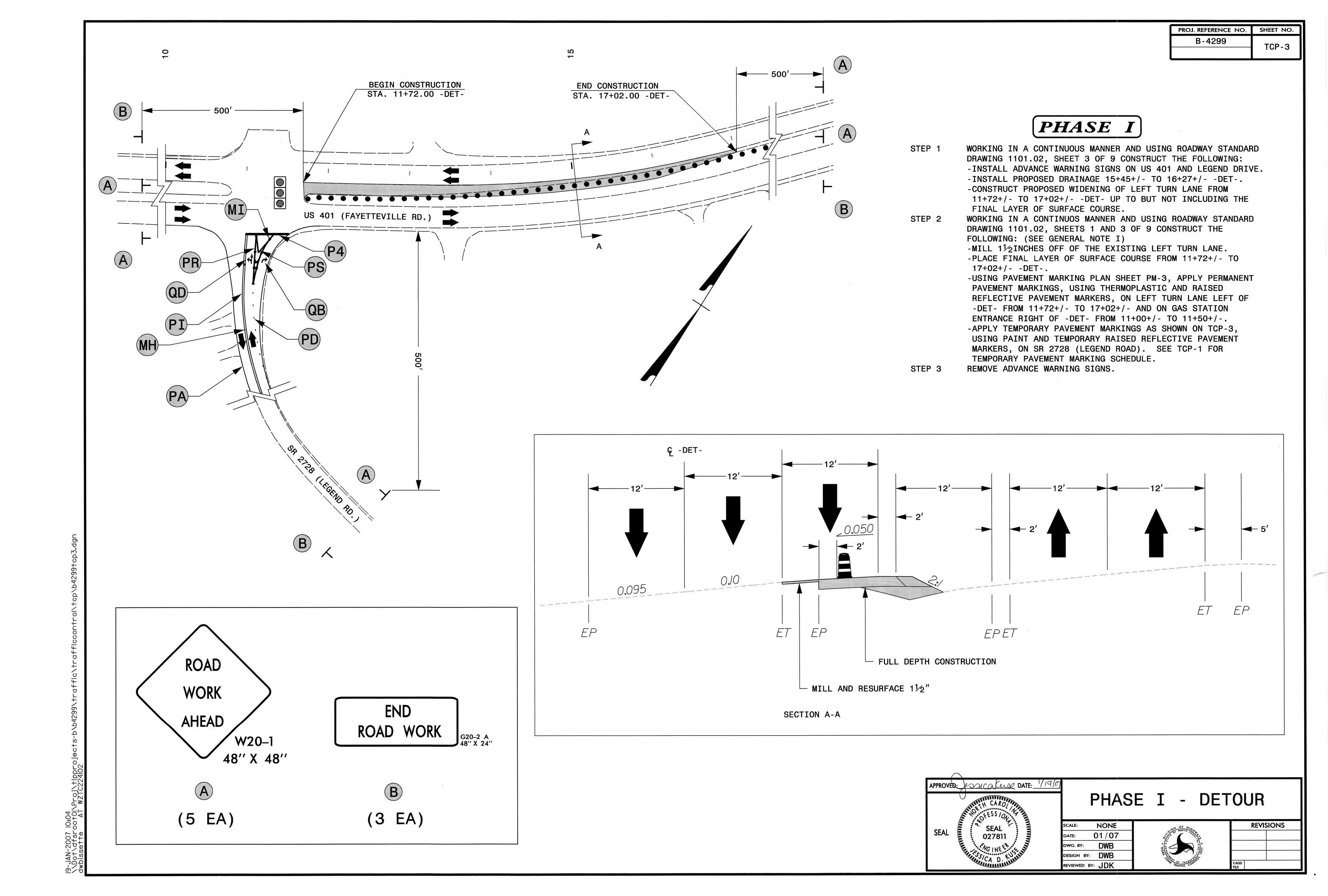
# PROJECT NOTES

DATE: 01/07
DWG. BY: DWB
DESIGN BY: DWB
REVIEWED BY: JDK

OF HORTH CARDINATION OF TRANSPORTOR

REVISIONS

UU / IU:U| Jfsrootol/Nrgoj/tlpprojects-b/b4299/traffic/trafficcontrol/tcp/b4299tcp2.dg



## PHASE II

INSTALL AND BEGIN RUNNING CHANGEABLE MESSAGE SIGNS AS SHOWN ON STEP 1 PLAN FOR SB US 401 TWO WEEKS PRIOR TO CLOSING SR 1006. USE MESSAGE GROUP 1 ON BOTH BOARDS.

COMPLETE THE WORK REQUIRED IN PHASE II STEP 2 BETWEEN THE HOURS OF 10:00 PM ONE DAY AND 6:00 AM THE FOLLOWING DAY. (SEE ICT 3)

- -CHANGE THE SIGNAL TIMING AS SHOWN IN THE SIGNAL PLANS AT THE STEP 2 INTERSECTION OF US 401 AND SR 1006 AND AT THE INTERSECTION OF US 401 AND SR 2782. (SEE LOCAL NOTE NO. 2)
  - -USING TCP-4 AND 5 AND ROADWAY STANDARD DRAWING 1101.03, SHEETS 1 AND 2 OF 9, INSTALL DETOUR SIGNS AND ROAD CLOSED SIGNS, CLOSE SR 1006 TO THRU TRAFFIC USING TYPE III BARRICADES AND SWITCH TRAFFIC TO OFFSITE DETOUR. (SEE LOCAL NOTE NO. 3)
  - -USE MESSAGE GROUP 2 ON CMS #1 AND MESSAGE GROUP 3 ON CMS #2. RUN THEM FOR TWO WEEKS AFTER CLOSING SR 1006 AND THEN REMOVE THEM.
- STEP 3 CONSTRUCT THE FOLLOWING WITHIN THE ROAD CLOSURE: (SEE LOCAL NOTE NO. 1)
  - -REMOVE THE EXISTING STRUCTURE.
  - -CONSTRUCT THE PROPOSED STRUCTURE.
  - -CONSTRUCT THE PROPOSED ROADWAY SECTION -L- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE.
- USING ROADWAY STANDARD DRAWING 1101.02 SHEET 1 OF 9 AS NEEDED STEP 4
- CONSTRUCT THE FOLLOWING: (SEE LOCAL NOTE NO. 1)
  - -PLACE THE FINAL LAYER OF SURFACE COURSE ON -L- FROM STA. 18+45+/- TO STA. 22+35 +/- AND FROM STA. 23+05+/- TO STA.
  - 25+25+/-. -PLACE THE FINAL PAVEMENT MARKINGS ON -L- FROM STA. 18+45+/- TO STA. 25+25+/-.

COMPLETE THE WORK REQUIRED IN PHASE II STEP 5 BETWEEN THE HOURS OF 10:00 PM ONE DAY AND 6:00 AM THE FOLLOWING DAY. (SEE ICT 4)

- -REMOVE ALL BARRICADES AND OPEN ROAD TO THROUGH TRAFFIC. STEP 5
  - -REMOVE ALL ROAD CLOSURE SIGNING AND DETOUR SIGNING. (SEE LOCAL NOTE NO. 3)
  - -PLACE FINAL PAVEMENT MARKINGS ON SR 2728 (LEGEND ROAD). -CHANGE THE SIGNAL TIMING AS SHOWN IN THE SIGNAL PLANS AT THE INTERSECTION OF US 401 AND SR 1006 AND AT THE INTERSECTION OF US 401 AND SR 2782. (SEE LOCAL NOTE NO. 2)
  - -REMOVE TEMPORARY PAVEMENT MARKINGS FROM SR 2728 (LEGEND ROAD) AND RESTORE ORIGINAL MARKINGS.

### MESSAGE GROUPS

MESSAGE NO. 1	MESSAGE NO. 2
OLD STAGE	BEGINNING
ROAD	WEEK OF
CLOSED	00/00/00

MESSAGE NO. 1 MESSAGE NO. 2 OLD STAGE NO THRU ROAD TRAFFIC CLOSED NEXT LEFT CHANGEABLE MESSAGE

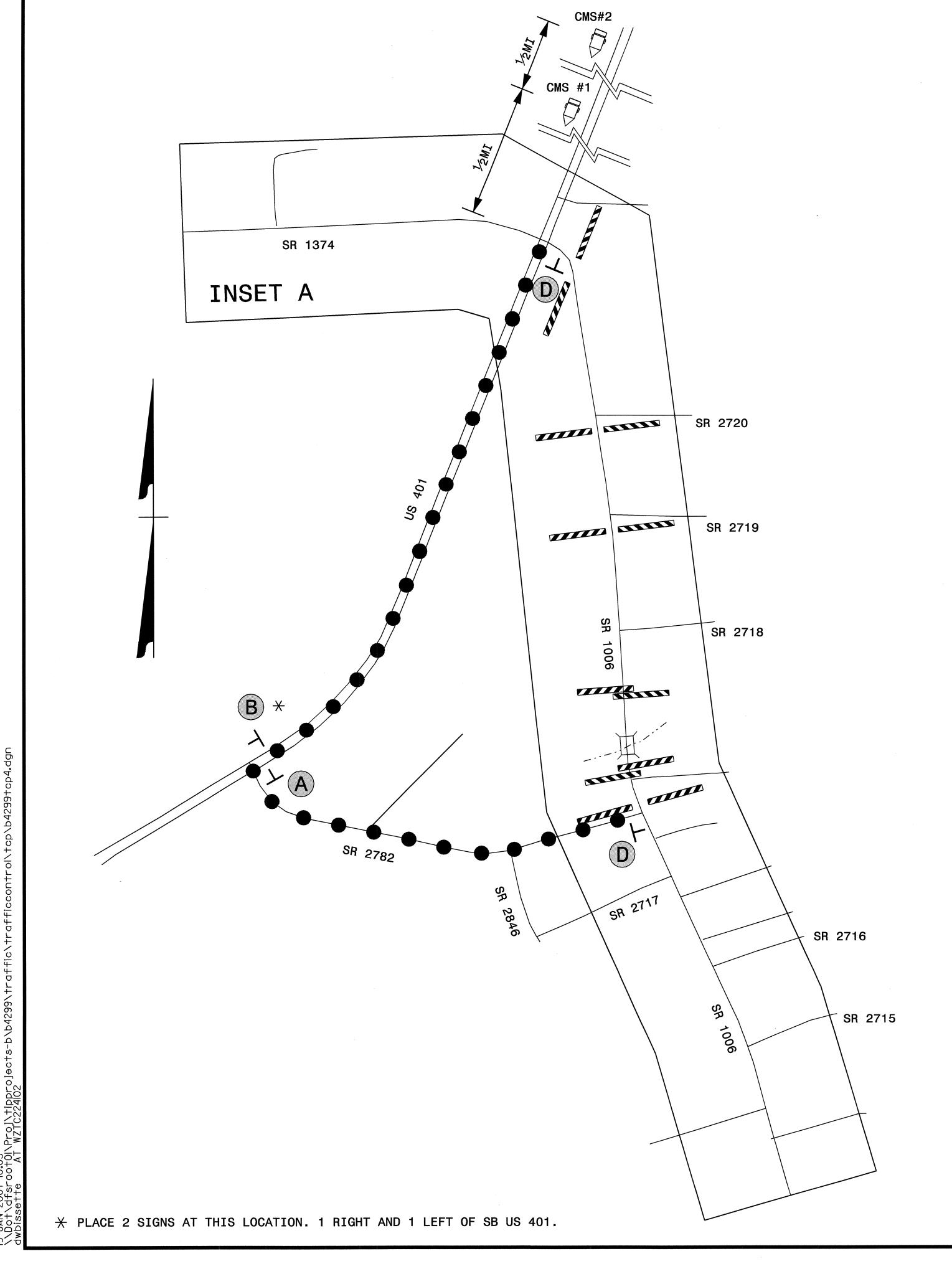
MESSAGE MESSAGE NO. 1 NO. 2 OLD STAGE USE LEGEND RD ROAD CLOSED DETOUR CHANGEABLE MESSAGE SIGN

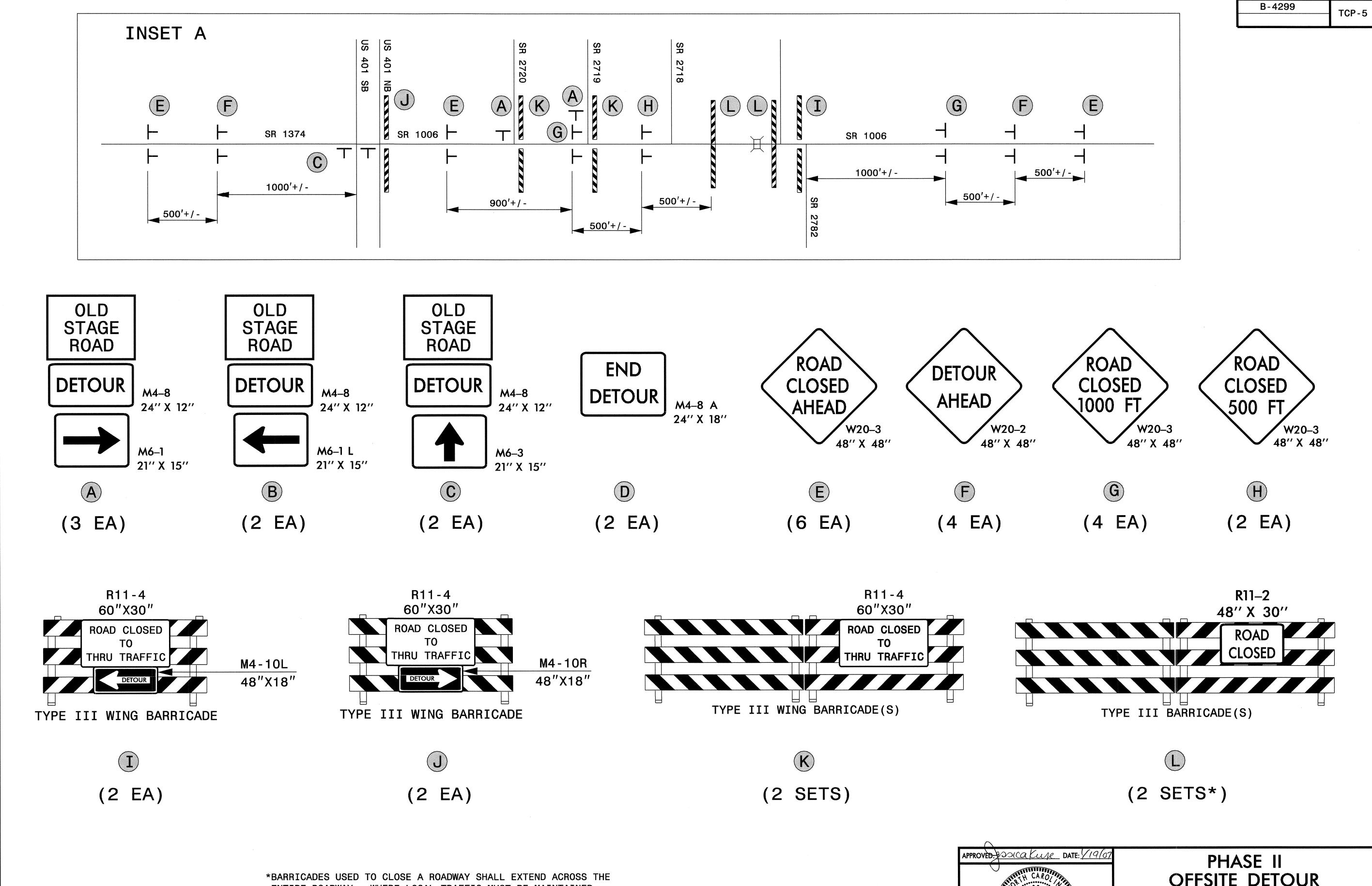


### PHASE II OFFSITE DETOUR

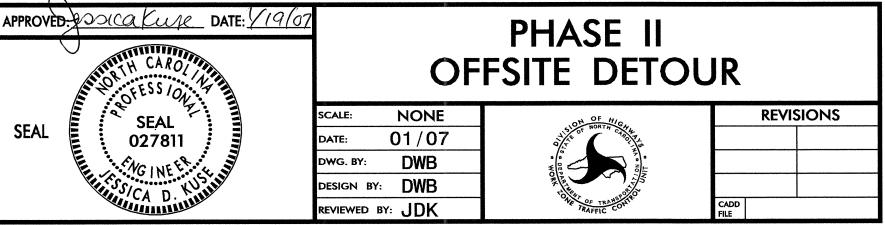
NONE 01/07 DWB DWG. BY: DESIGN BY: DWB REVIEWED BY: JDK

**REVISIONS** 





\*BARRICADES USED TO CLOSE A ROADWAY SHALL EXTEND ACROSS THE ENTIRE ROADWAY. WHERE LOCAL TRAFFIC MUST BE MAINTAINED, THEY MAY BE PLACED IN A STAGGERED POSITION.



PROJ. REFERENCE NO.

PROJ. REFERENCE NO. SHEET NO. B-4299 TCP-6

Sign Number:

Design By: DME

Project ID: B-4299

Check By:

DIV: 5

STD #: N/A Date: Jun 09,2006 N. C. DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

Sign Width: 2'-6"

Height: 2'-6"

Quantity: 1

Background Color: Fluorescent Orange

Legend & Border Color: Black

Total Area: 6.3 Sq.Ft.

Type: D Ground

**Border Type:** Recessed

Backing Material: 0.125 in. Aluminum

0.079 in. Composite

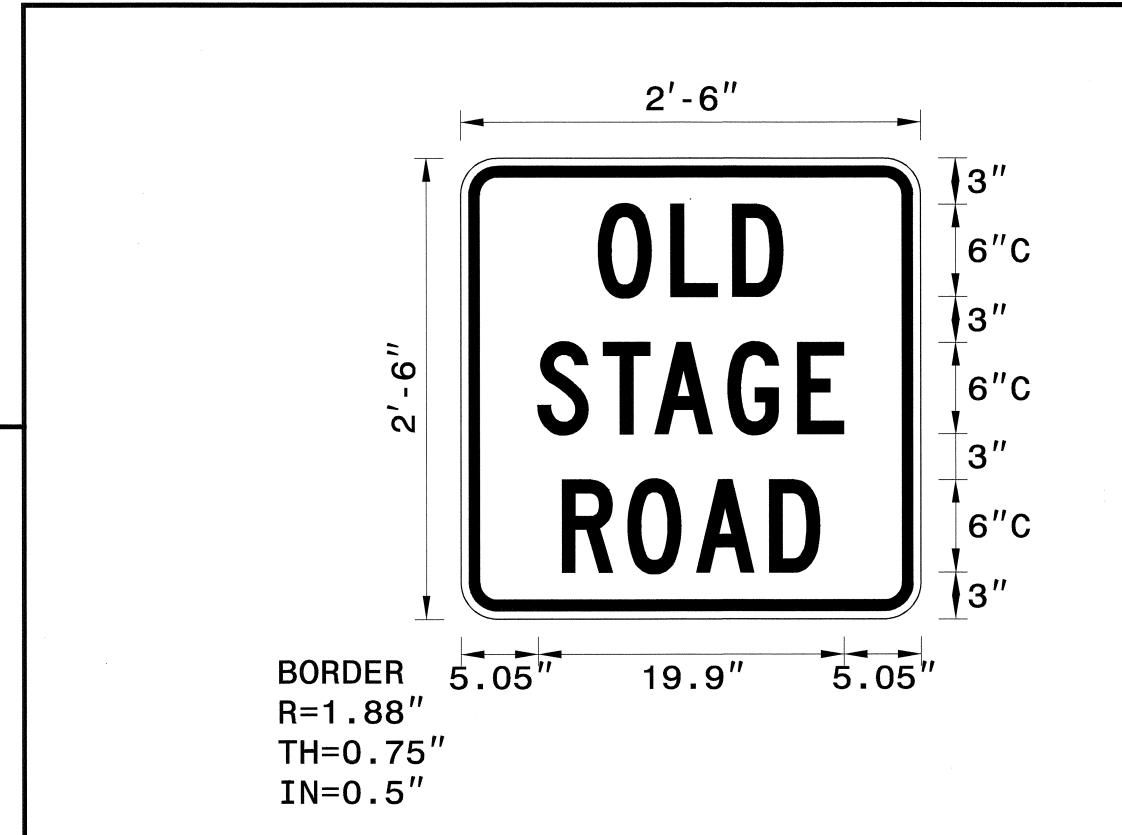
Width: 0.75" Radii: 1.88"

Recess: 0.5"

**NOTES:** 

1. Legend and border shall be direct applied non-reflective sheeting.

2. Background shall be Type VII, VIII, or IX (prismatic) retroreflective sheeting.



Letter spacings are to start of next letter													Series/Size Text Length						
	0	L	D																С
9	4.7	4	3.3	9															12
	S	Т	Α	G	E									·					С
 5	4.3	3.3	4.8	4.6	3	5													19.9
	R	0	Α	D															С
6.6	4.3	4.5	4.8	3.3	6.6														16.8

Spacing Factor is 1 unless specified otherwise

APPROVED: french State: 1/19/0

SIGN DESIGN

01/07 REVIEWED BY: JDK

REVISIONS